Ref. 16
Albion Sheridan LF
MID980554450

TO: Albion City Council and City Officials

DATE: 19 February 1979

FROM: John W. Parker and Robert Hunt J.W. Parker

RE: Possible contamination of the Marshall sandstone and Albion's water supply

1) We have found, on recent Calhoun County maps, that the Marshall sandstone, lying beneath the landfill near the southeast corner of Albion, has its eroded upper surface at an elevation of about 920 feet above sea level (Wilmoth, Daniels and Griest).

   The elevation of the water table, by the same set of maps, is at about 950 feet.

   From U.S. Geological Survey topographic maps, the average original land elevation in the landfill area is about 980 feet. The trenches in which waste materials are buried are therefore close to the water table, and also close to the Marshall sandstone.

2) The glacial drift cover which in theory protects the Marshall aquifer from pollutants has apparently not been cored or tested. It appears to be sandy clay, and may be relatively permeable.

3) Chemical contamination from the landfill is a distinct possibility, in our opinion a probability, because rain and snowmelt waters could leach soluble chemicals from the landfill and carry them into the Marshall sandstone, which is our drinking water aquifer.

4) City wells, by their pumping, create a low-pressure system within the Marshall sandstone which would cause leachate, the chemical pollutants, to move toward the wells.

Recommendations:

1) Have water samples monitored for chemical contaminants on a regular basis.

2) Find a better landfill site soon; budget funds for its acquisition.

3) Close existing landfill as soon as possible and see that it's covered with a relatively impermeable cover (e.g., clay).

JWP/mg

Diagram by J W Parker, for encl. 2 Ltr. of 19 Feb 79